

FIG. 1A

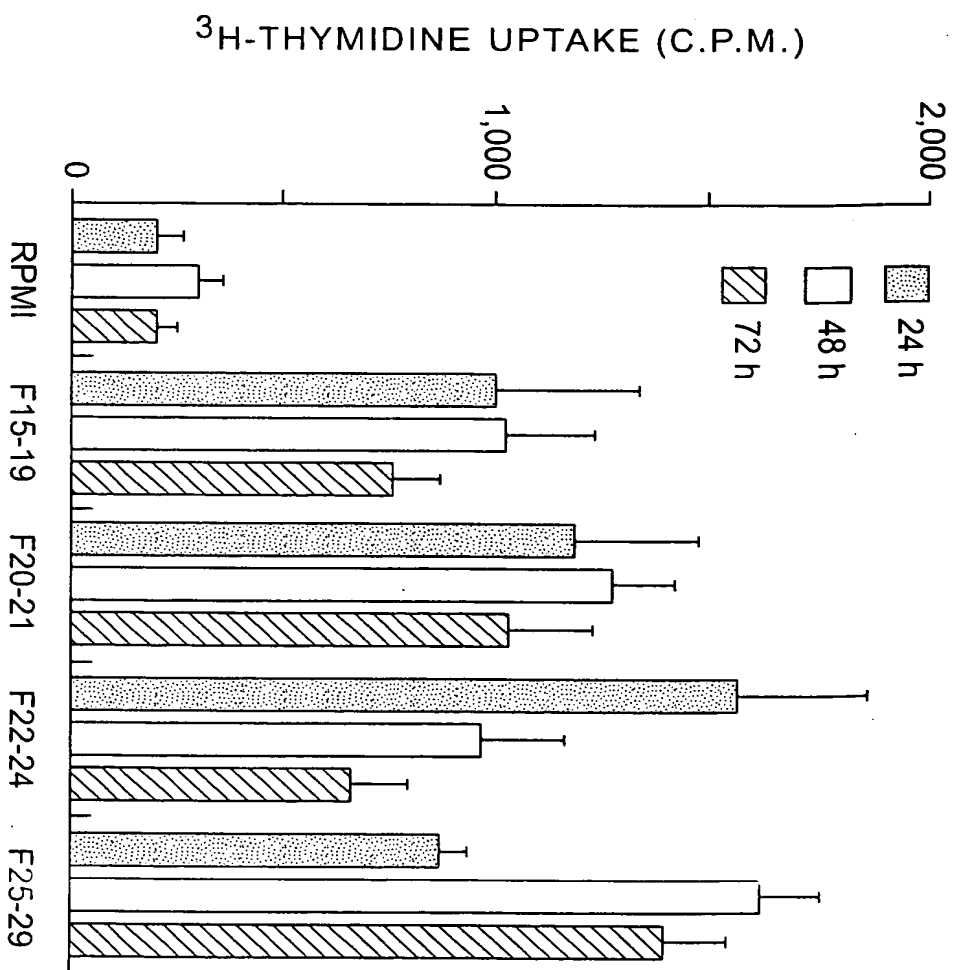


FIG. 1B

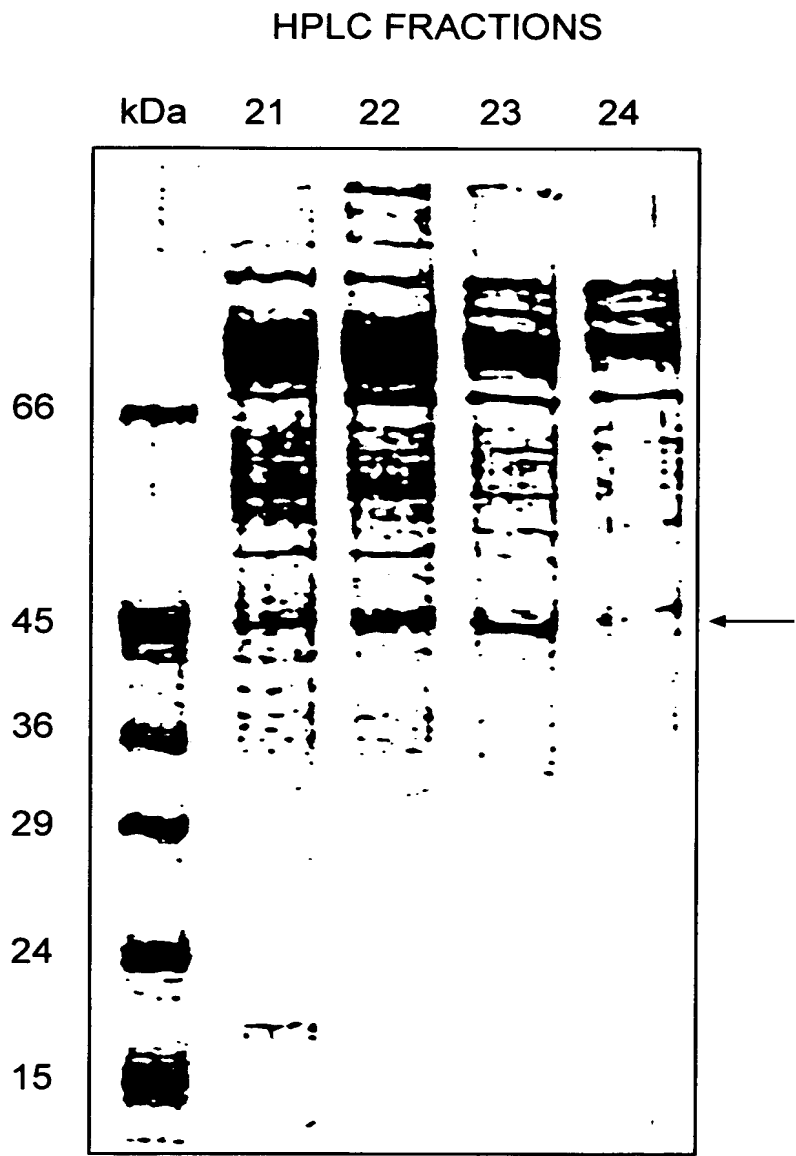


FIG. 1C

Tc	MRKSVCPKQKFFFSAPFEFFFCVFPPLISRTQEKLLFDQYKIKKEKKEKKKNQANRREHQKREIMREKKS	75
Cs	-----MKFSKG	6
Pa	-----MQR	3
<hr/>		
Tc	FTCIDMHTEGEARIVTSGLPHPGSNMAEKKAYLQENMDYLRRGIMLEPRGHDMFGAFLFDPIEGADLGWVF	150
Cs	IHAIDSHMTGEPTRIVVGIPQINGETMADKKYLEDNLDYVRTALMHEPRGHNDMEGSIITSSNNKEADFGIIF	81
Pa	IRIIDSHTGGEPTRLVIGGFDDLQGDMAERRRLLGERHDAMRAACILEPRGSDVLVGCALLCAPVDPEACAGVIF	78
<hr/>		
Tc	MDTGGYLMCGHNSIAAVTAVETGIVSVPAKATNPVPLDTPAGLVRGTAHLQSGTSESVSNASII NVPSFLYQ	225
Cs	MDGGYLMCGHSGIGCATVAVETGMVEMVEPTNIN--MEAPAGLIKAKMVEN--EKVKEVSITNVPSFLYM	151
Pa	FNNSGYLMCGHGTIGLVASLAHLGRIGPV-----HRIETPVGEVEATLH-----EDGSVSVRNVPAYRYR	140
<hr/>		
Tc	QDVVVVLPKPYGEVRVDIAFGCNFFAIVPAEQLGIDISVQNL SRLQEAGELL RTEINRSVKVQHPQLPHINTVDC	300
Cs	EDAKLEVPSLNTITFDISFGGSFFAI IHAKELGKVETSQVDVLKKGIEIRDLIN EKIKVQHPLEHIKTVDL	226
Pa	RQVSVEVPGI-GRVSGDIAMGCMWFFLVAGH--QRLAGDNL DALTAYTVAVQQA LDD----QDIRGEDGAIDH	208
<hr/>		
Tc	VEIYGPPTNPEANYKNVVI FGNRQADR	371
Cs	VEIYDEPSNPEATYKNVVI FGQGVDR	297
Pa	IELFAD--DPHADSRNFVLC PGKAYDR	279
<hr/>		
Tc	RIPGVKVPVTKDAEGLVTAETGKAFIMGFNTMLFDPTDPFKNGFTLKQ*	423
Cs	KVGEFD-----AI IPEITGAYITGFNFHVIDPEDPLKYGFTV*--	335
Pa	PGGPVIVPTIRGRAHVSAAETLL LADDDPFAMGIR*-----	314

FIG. 2

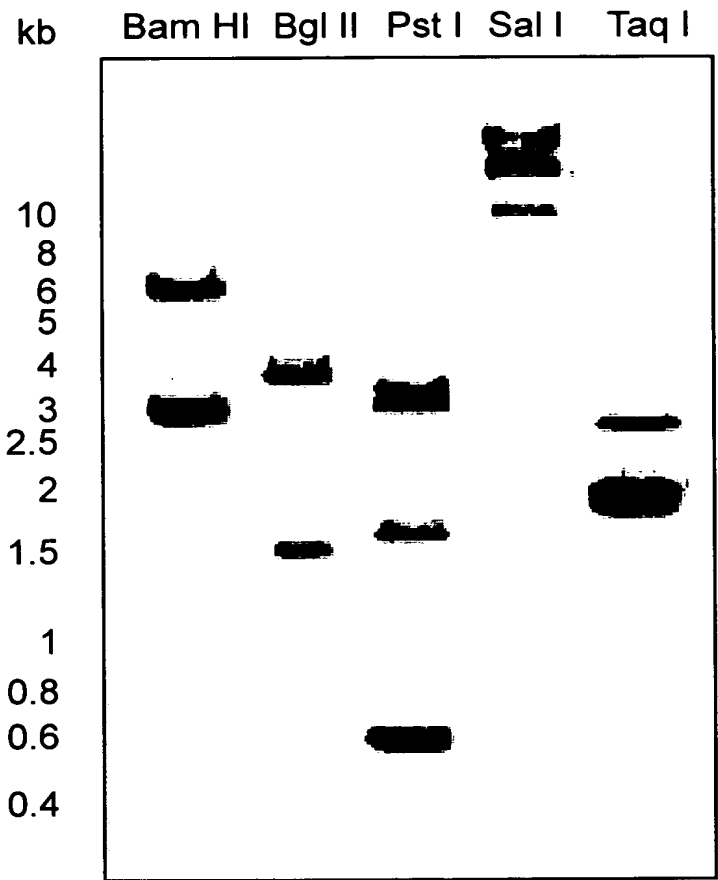


FIG. 3A

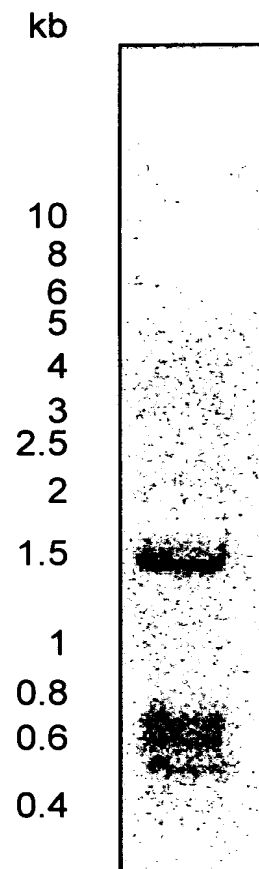


FIG. 3B

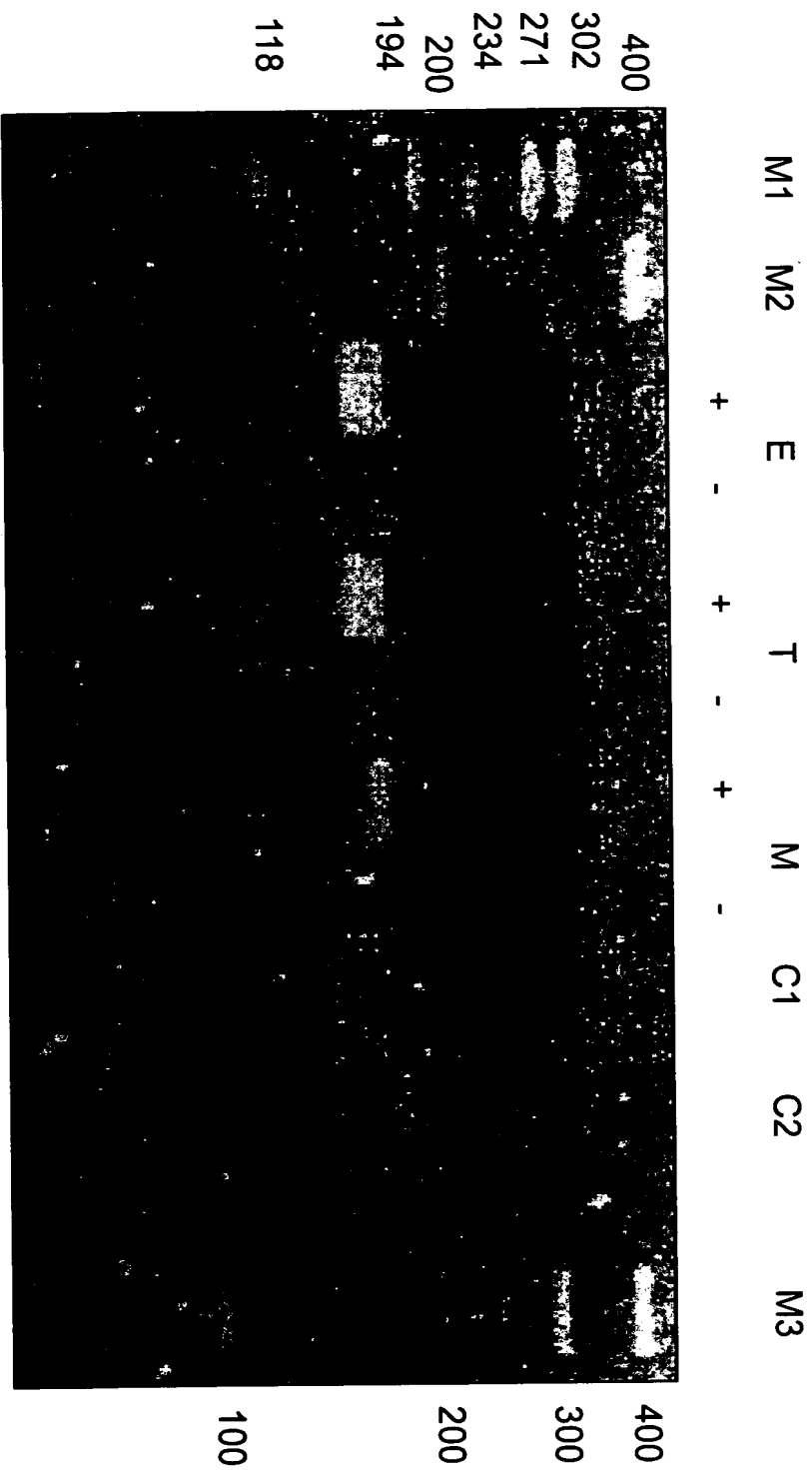


FIG. 3C

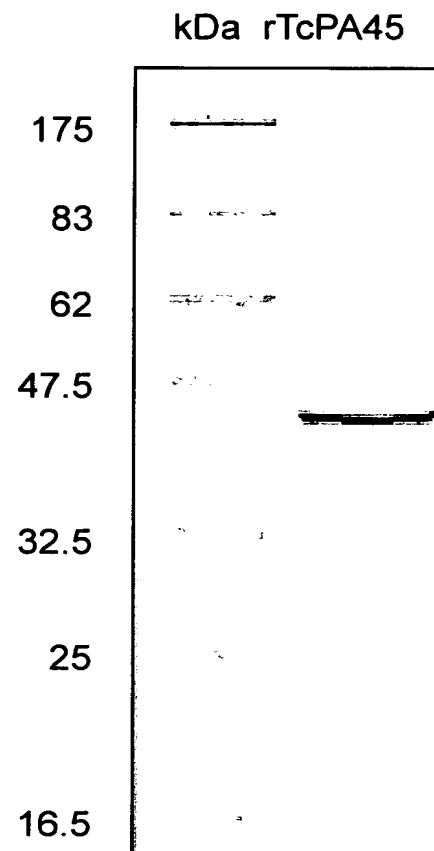


FIG. 4A

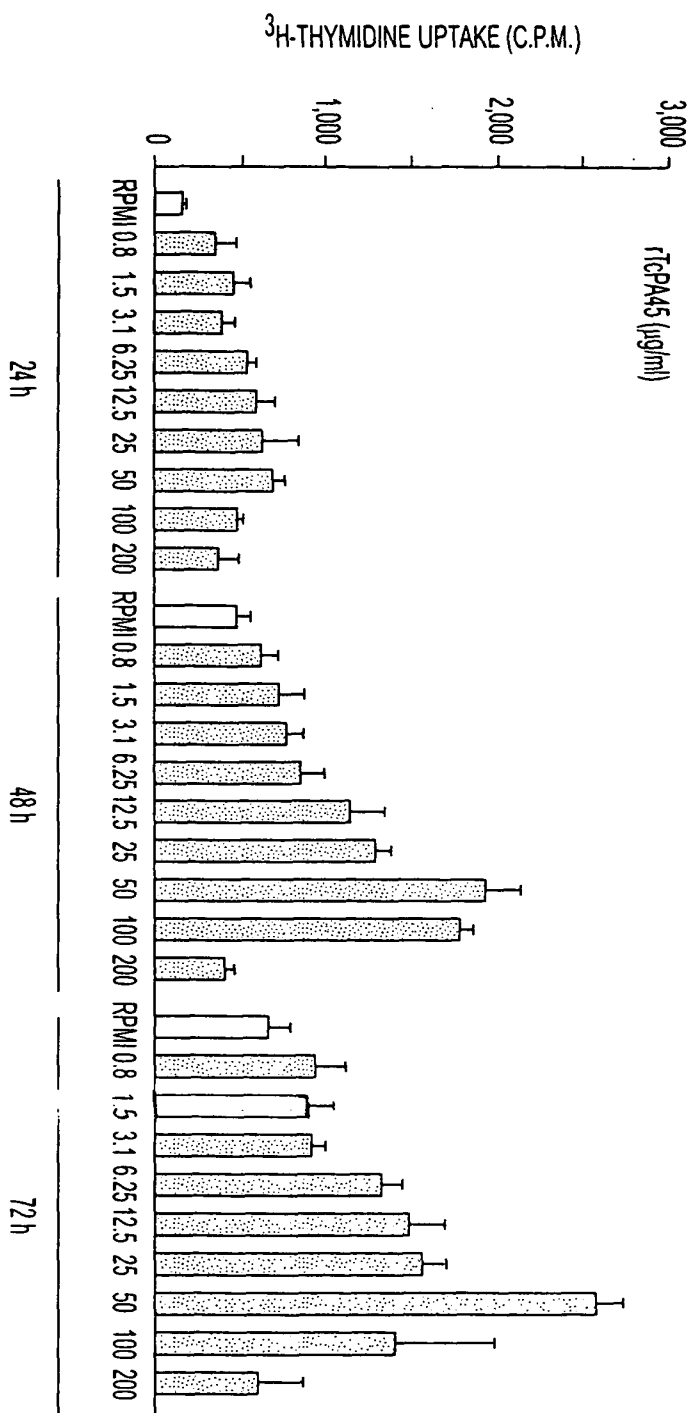


FIG. 4B

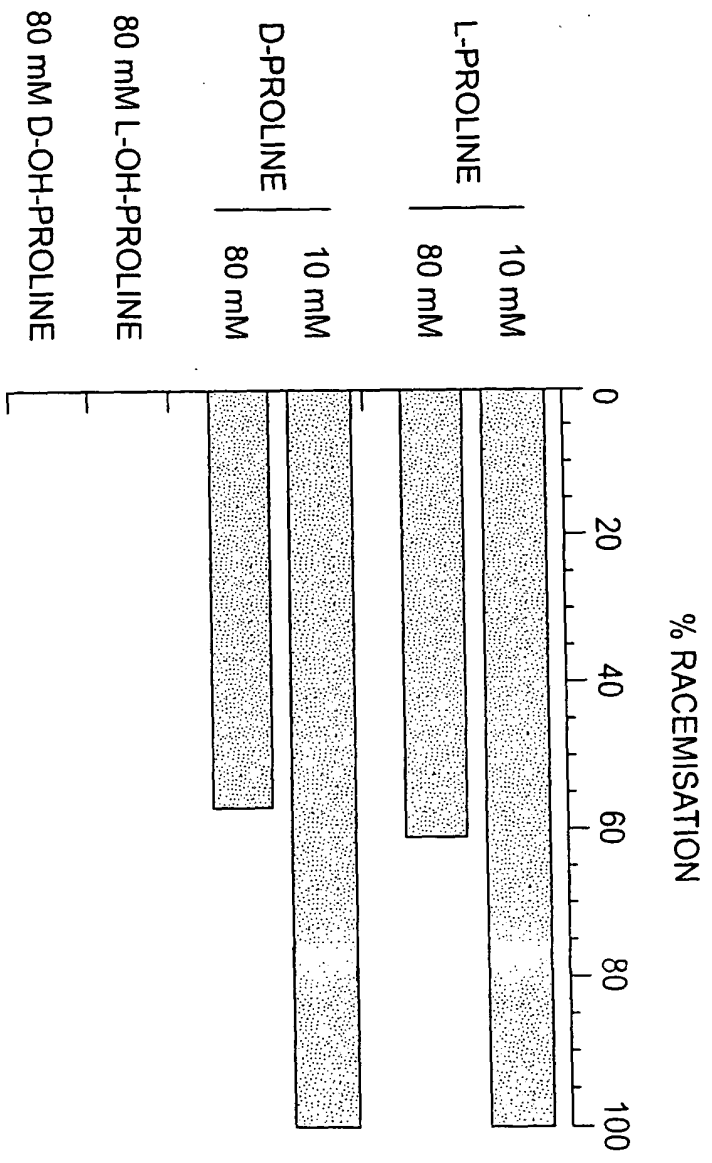


FIG. 4C

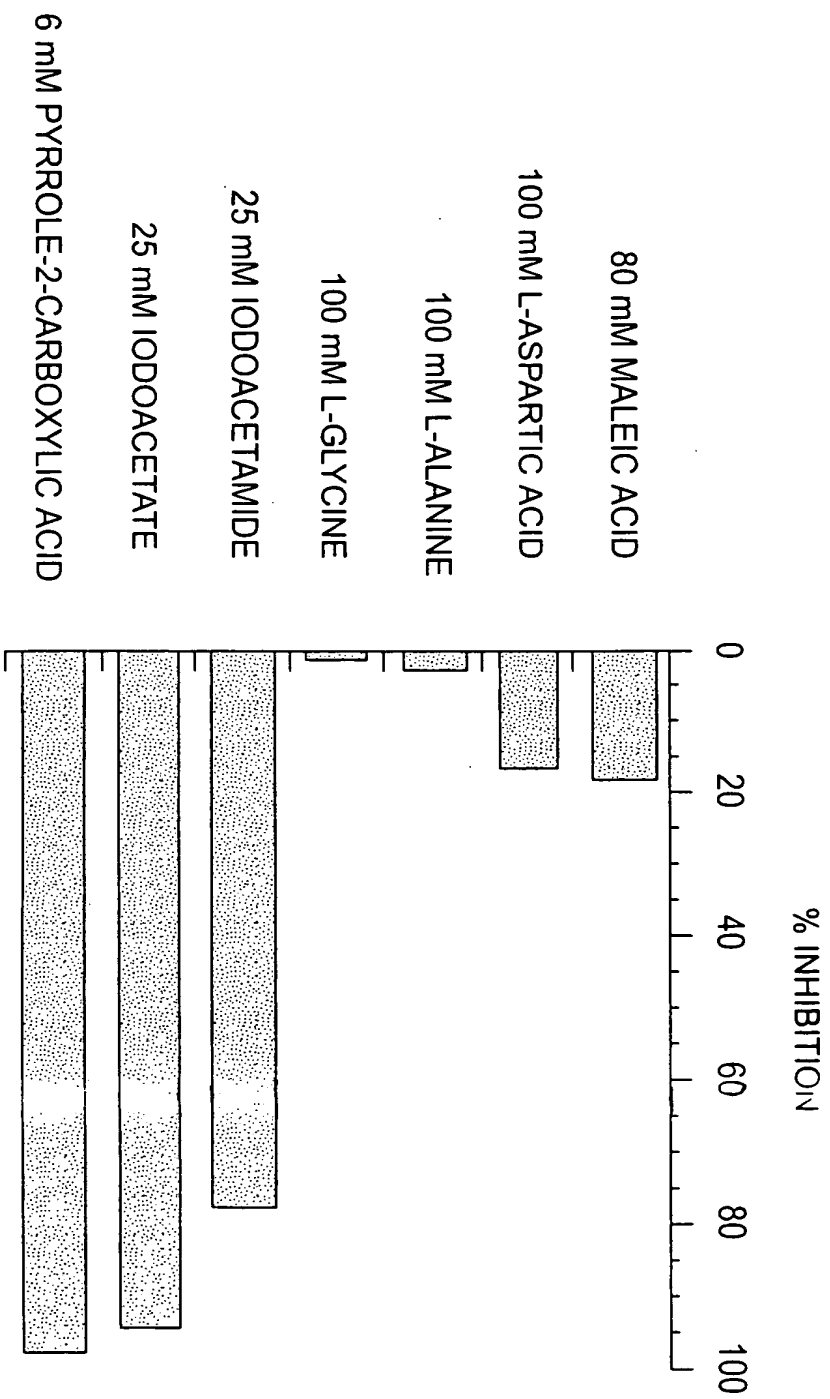


FIG. 4D

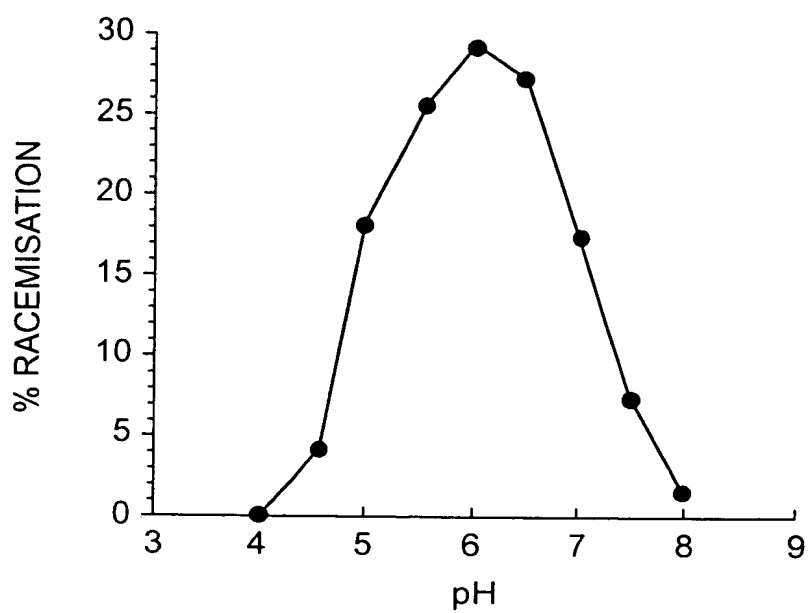


FIG. 4E

POLYPYRIMIDINE RICH REGION



SPLICE LEADER
ACCEPTOR SITES

SIGNAL

CCTTTTCTTTTAAAAAAACA~~AAAAA~~ATTCCGGGGGAATATGACAGGGTATATGCGTAAAGTGTCTGTCCCAACA~~AAAA~~ATTTT
TTTCCGCCCTTCCCATTTT~~TTTTTTTTTTT~~GTGTGTTCCCTTGATCTCTCGAACA~~GGC~~CAGGAAAGCTTCTGTGACC~~AAAA~~ATAT
F S A F P F F F F C V F P L I S R T G Q E K L L F D Q K Y
AAAAATTATTAAGGCGAGAAAAAGAAAAAATCAACGACGAACAGAGAGACACCAACAAAAAGGAATTTATGCGATTT
K I I K G E K K E K K N Q R A N R R E H Q Q K R E I M R F
AAGAAATCATTCACATGCATCGACATCGAATCGGAAGTGAGCAGCAGCGATTGTGACGAGTGGTTGCGACACATTCCAGTTGGAAT
K K S F T C I D M H T E G E A A R I V T S G L P H I P G S N
ATGGCGAGAGAAGACATACCTCGACGAAACAATGATTTATTTGAGCCGTGGCATATGCTGGAACCACTGGTCATGATATGTTT
M A E K K A Y L Q E N M D Y L R R G I M L E P R G H D D M F
GGAGCCTTTTATTTGACCCCTATTGAAGAAGCGCCTGACTTGGCGATGTAATTCATGATACCGGTGCTATTTAAATATGTGACAT
G A F L F D P I E E G A D L G M V F M D T G G Y L N M C G H
AACTCAATTGCAGCGGTTACGGCGGCACTTGAACGGGAATTGTGAGCGTCCCGGGAAGCAACAATGTTCCGGTTGCTCTGACACA
N S I A A V T A A V E T G I V S V P A K A T N V P V V L D T
CCTGGGGGTTGGTGGCGGTTACGGCACACCTTCAGAGTGGTACTGAGAGTGAAGTGTCAATGCGAGTATTTATCAATGTACCCTCATTT
P A G L V R G T A H L Q S G T E S E V S N A S I I N V P S F
TTGTATCAGCAGGATGTGGTGTGTGTTGCCAAGCCCTATGCTGAAGTACGGGTGATATTCATTTGAGGCAATTTTTTGGCATT
L Y Q Q D V V V V L P K P Y G E V R V D I A F G G N F F A I
GTTCGGCGGAGCAGTTGGGAATTGATATCTCCGTTCAAAACCTCTCCAGGCTGCAGGAGGAGGAGCAACTTCTGCGTACTGAATCAAT
V P A E Q L G I D I S V Q N L S R L Q E A G E L L R T E I N

FIG. 5A

CGCAGTGTGAAGGTTACAGCACCCCTCAGCTGCCCATATTACACTGTGACTGTGTGAGATATACGGTCCGCCAACGAACCCGGAGGCA 970
R S V K V Q H P Q L P H I N T V D C V E I Y G P T N P E A 312
AACTACAAGAACGTTGTGATATTGGCAATGCCAGCGGATCGCTTCATGTGGACAGCAGCAGCGCAAGATGGACACTTTAT 1060
N Y K N V V I F G N R Q A D R S P C G T G T S A K M A T L Y 342
GCCAAGGCCACGCTTCGCATCGAGAGACTTTTGTGTACGAGACGATACTCGGCTCACTCTTCCAGGCGAGGTACTTGGGAGAGCGA 1150
A K G Q L R I G E T F V Y E S I L G S L F Q G R V L G E E R 372
ATACCGGGGGTGAAGTGCCTGGTACCAAGATGCCGAGAGGAGTGTCTGTTGTAACGGCAGAGAATTACTGGAAGGCTTTTATCATG 1240
I P G V K V P V T K D A E E G M L V V T A E I T G K A F I M 402
GGTTCAACACCATGCTGTTTGACCCACGATCCGTTTAAGAACGATTCACATTAAAGCAGTAGATCTGTTAGAGCACAGAACTATT 1330
G F N T M L F D P T D P F K N G F T L K Q 423
GGGAACACGTGCCAACAAGGTGCTGCTACGTGAAGGCTATTGATGATCGTTTTTTTTTAATTTTAAATTTTATTATTAGTCATT 1420

ATTATTAAATTTTTTTTTTGTGGGTTTCAACGGTACCGCGTTGGGAGCAGGGAACGATACCGCGCGGACAATTTTTTGCCTTTAT 1510

TTTCATTTTCATCTTCTACCCCAACCCCTTGCTTCCACCGGTCCGGCGGGGCTTGTGGGTGAGGAGTCTTAAATCCCGACCTCGG 1600

AGGAATAACATATTTCATTTTCATATCTTGAATCAAAAGGCAT 1651

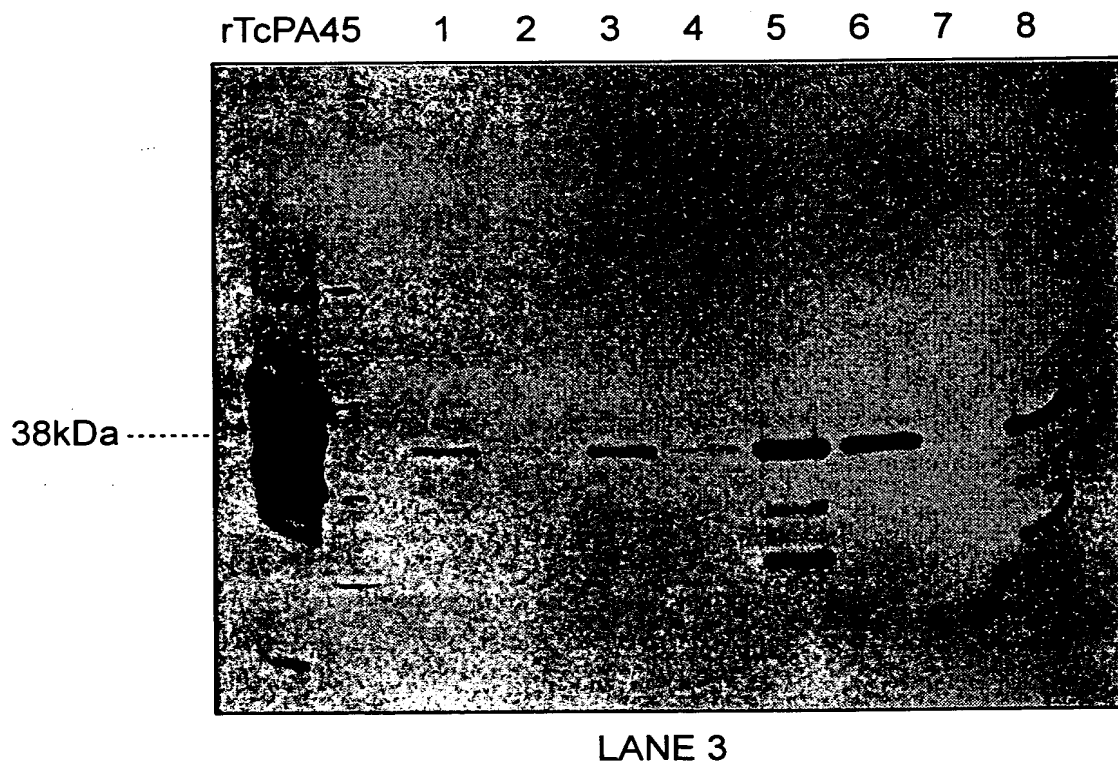
POLYADENILATION SITE

OBS: UNDERLINED THE SEQUENCED PEPTIDES USED TO DEDUCE DEGENERATED PRIMERS FOR CLONING

NUCLEOTIDE SEQUENCE AND PEPTIDE SEQUENCE TcPA45

FIG. 5B

WESTERN BLOT



SOLUBLE FRACTION OF EPIMASTIGOTES EXTRACT (CYTOSOLIC)
REVEALED WITH ANTIBODY DIRECTED TO rTcPA45

..... DEMONSTRATES THE EXISTANCE OF AN INTRACYTOPLASMIC
FORM OF TcPA45 IN THE PARASITE

FIG. 6

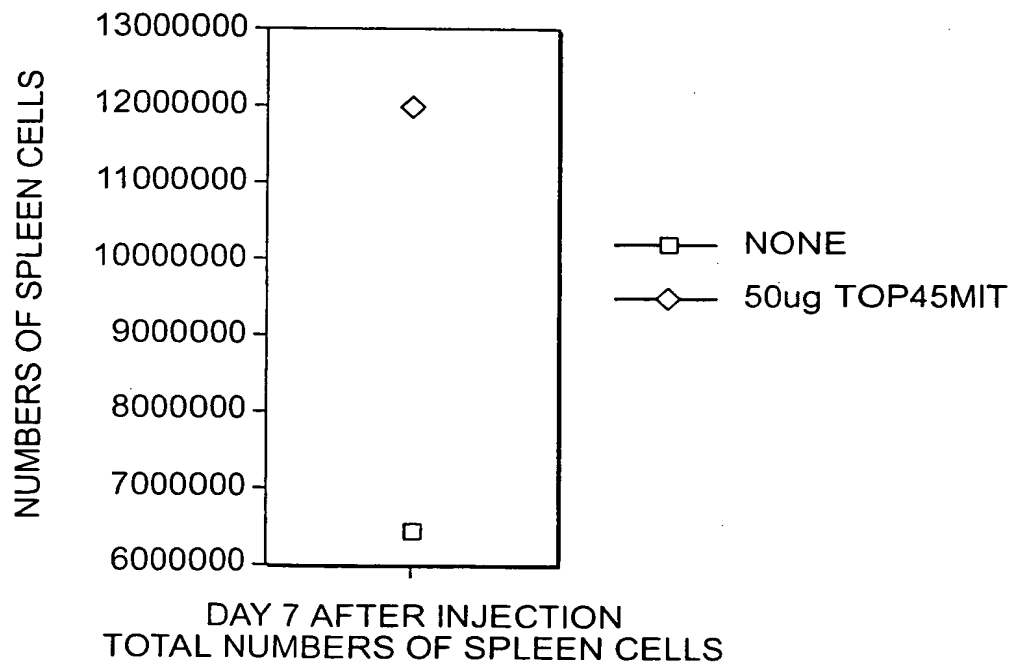


FIG. 7

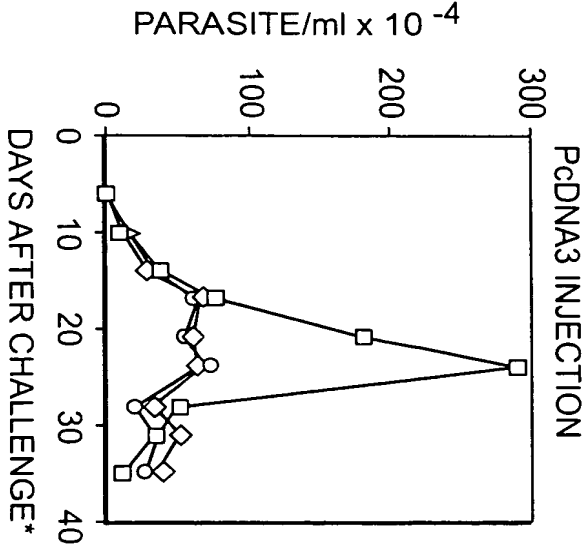
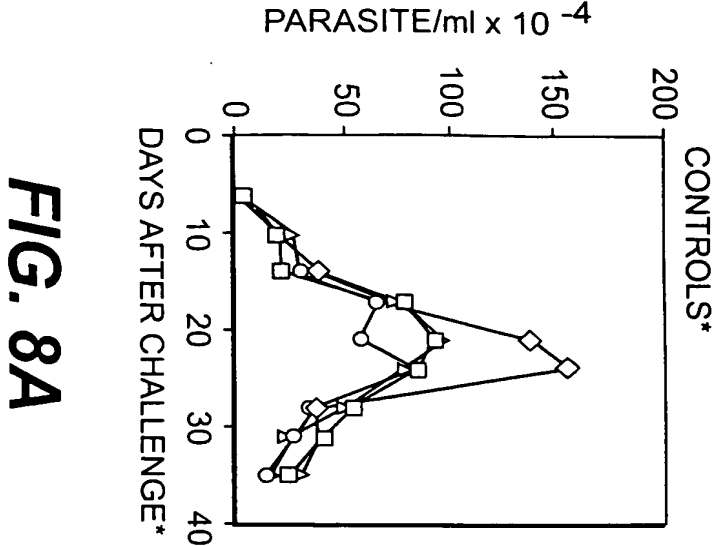


FIG. 8B

- EMPTY pcDNA3 (1x i.m.)
- ◇— LONG pcDNA3 (1x i.m.)
- SHORT pcDNA3 (1x i.m.)
- EMPTY VR 1020 (3 i.m.)
- ◇— LONG VR 1020 (3 i.m.)
- SHORT VR 1020 (3 i.m.)
- EMPTY VR 1020 (1 i.m.)
- ◇— LONG VR 1020 (1 i.m.)
- SHORT VR 1020 (1 i.m.)

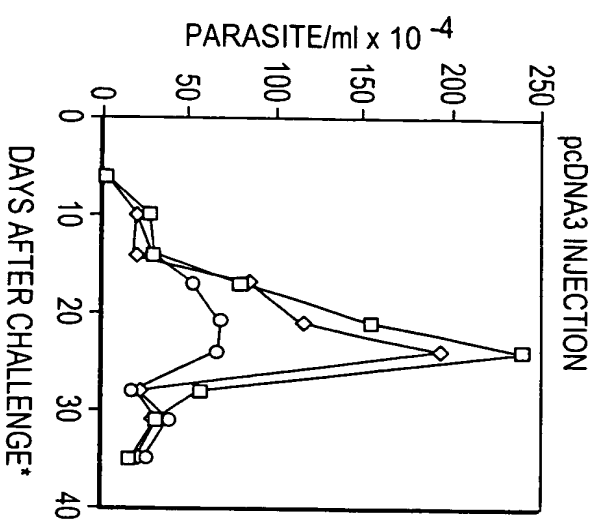


FIG. 8C

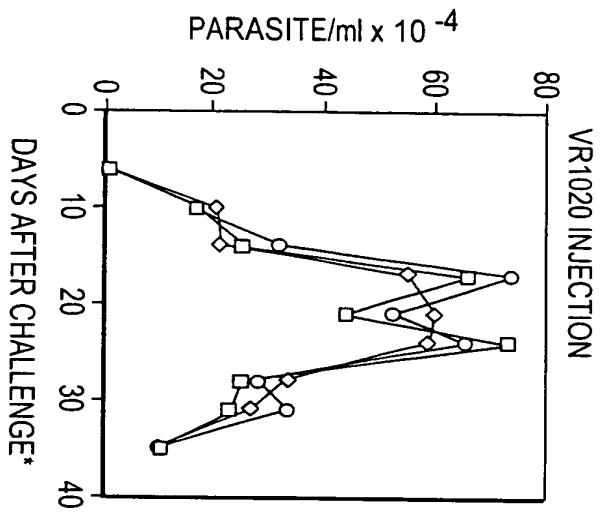


FIG. 8D

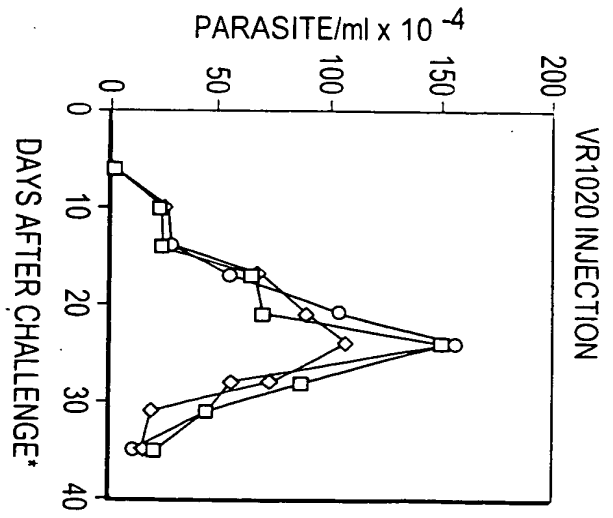


FIG. 8E

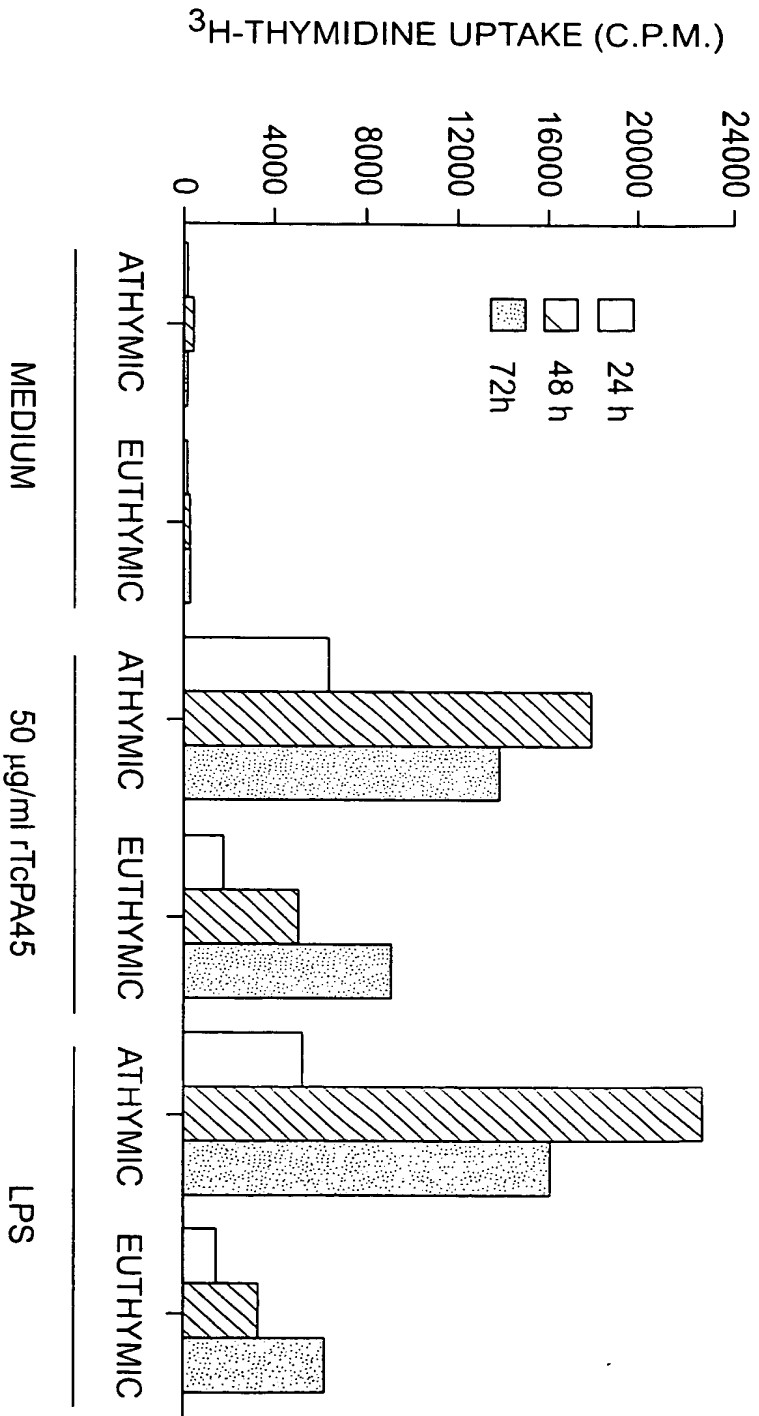
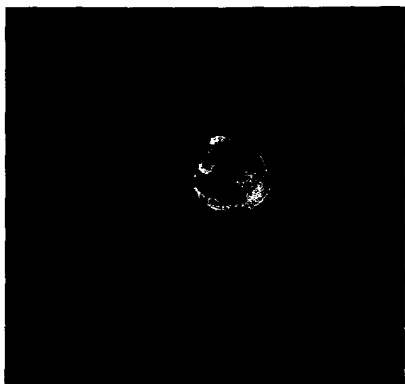


FIG. 9

Alexa-F (ab')₂



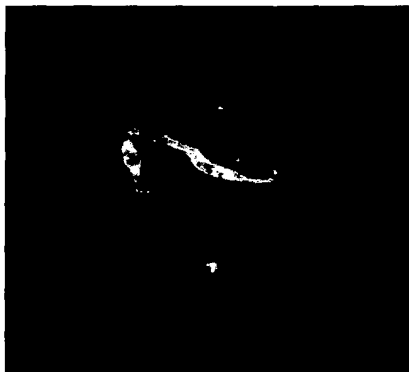
Chronic serum



EPIMASTIGOTE



METACYCLIC



TRYPOMASTIGOTE

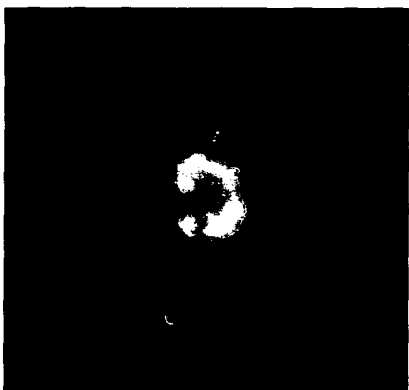


FIG. 10A

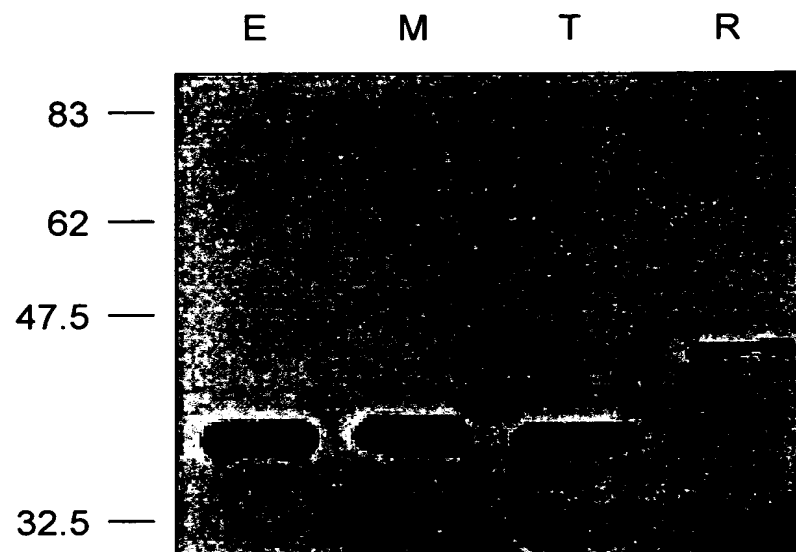


FIG. 10B

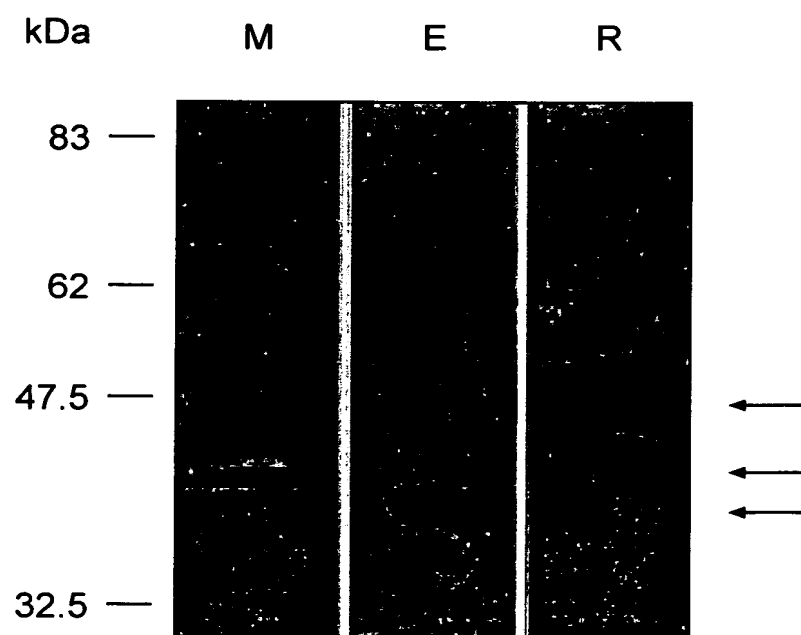


FIG. 10C

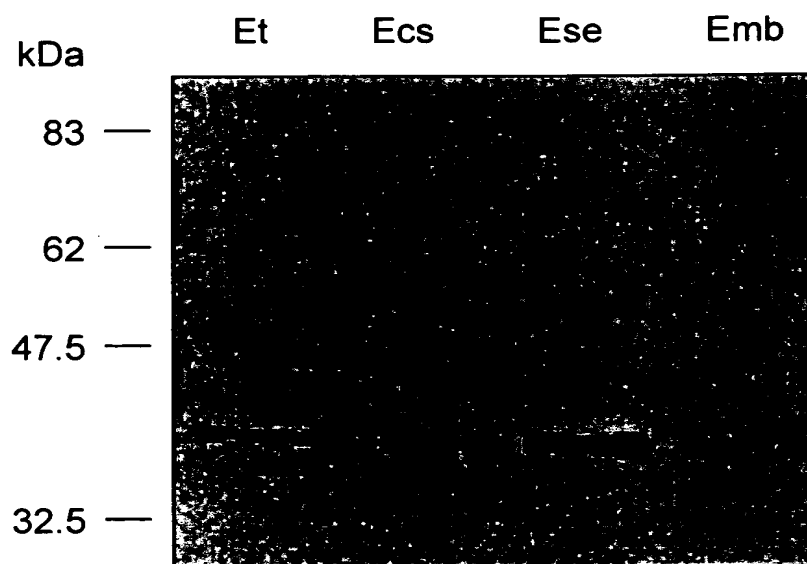


FIG. 10D

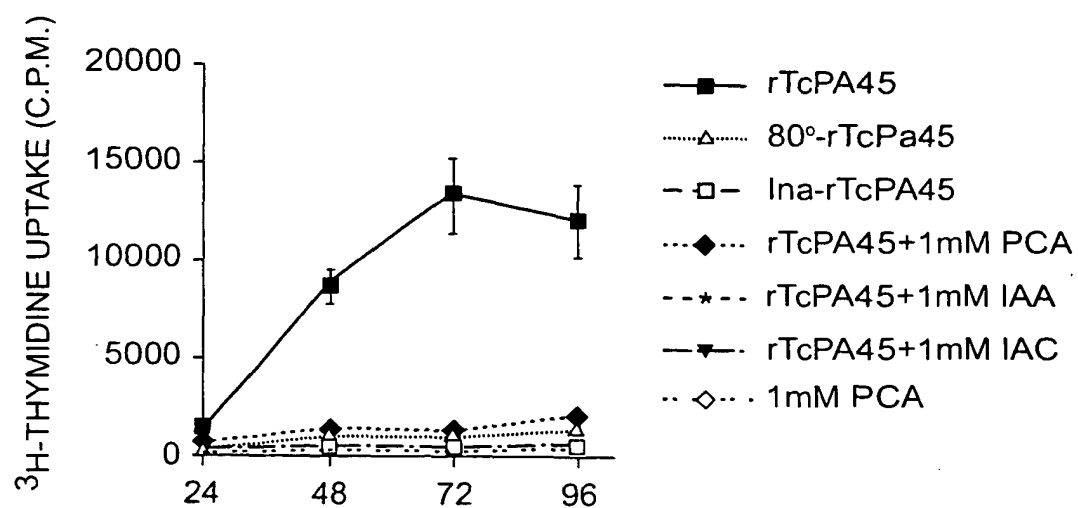


FIG. 11A

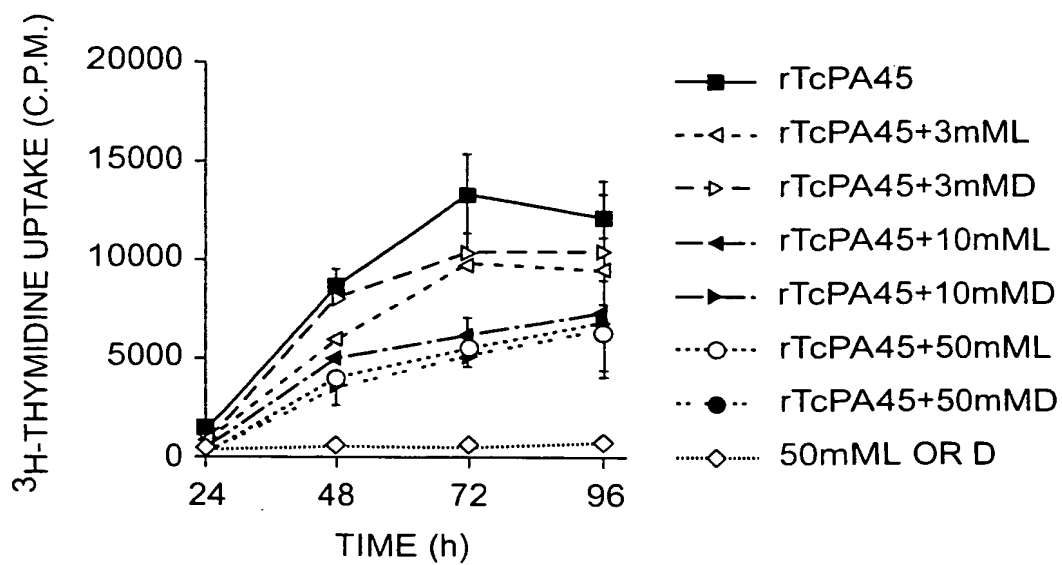
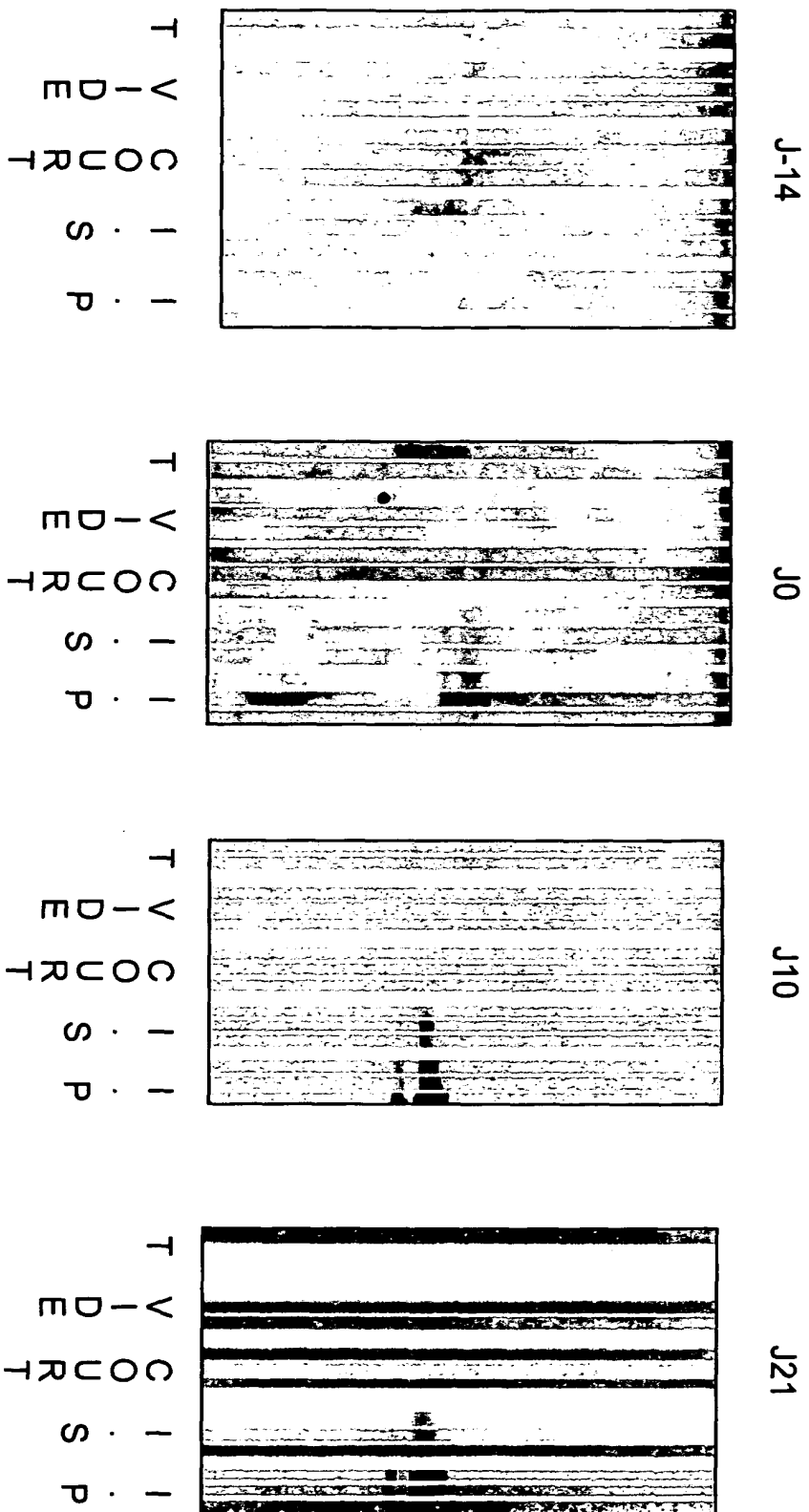


FIG. 11B



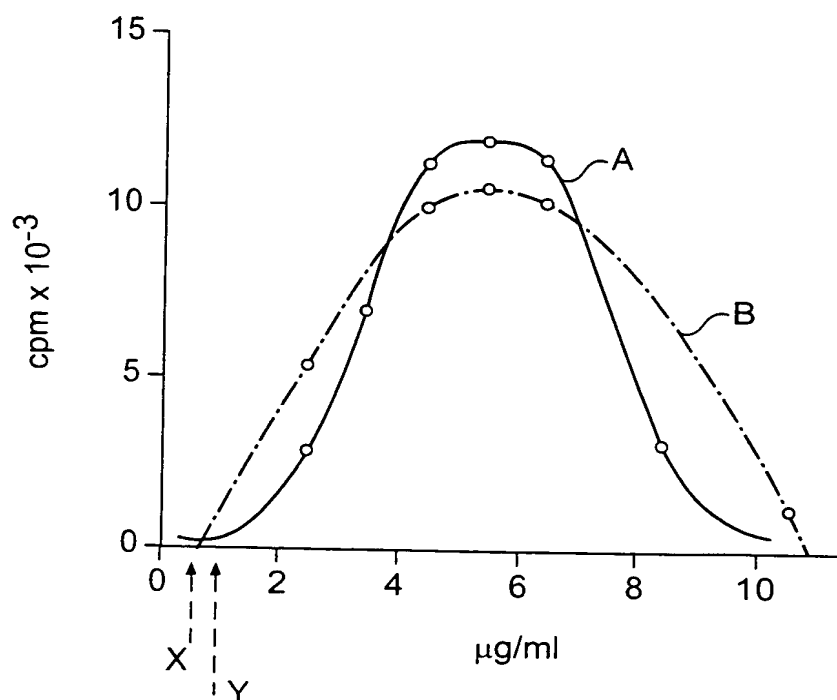


FIG. 13

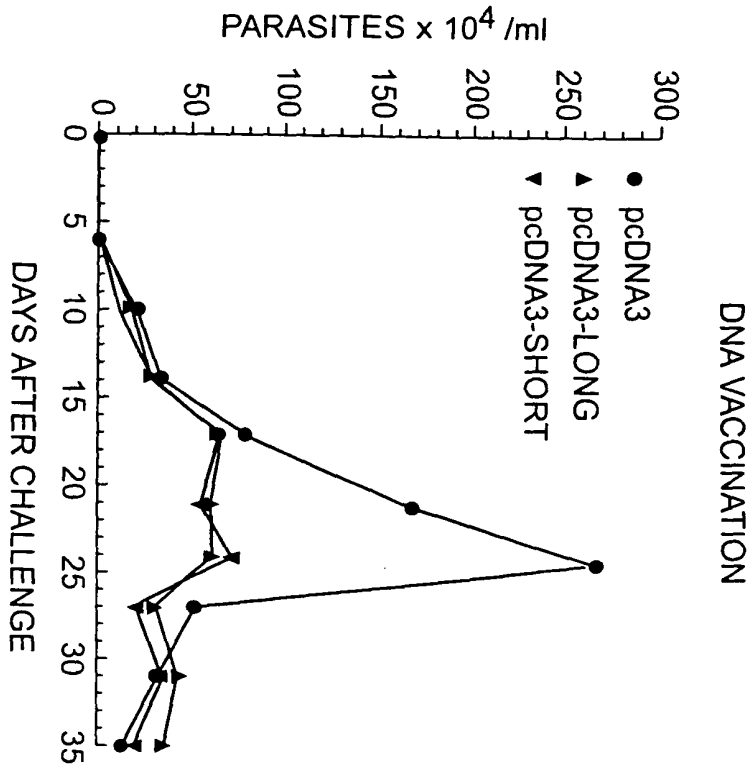


FIG. 14A

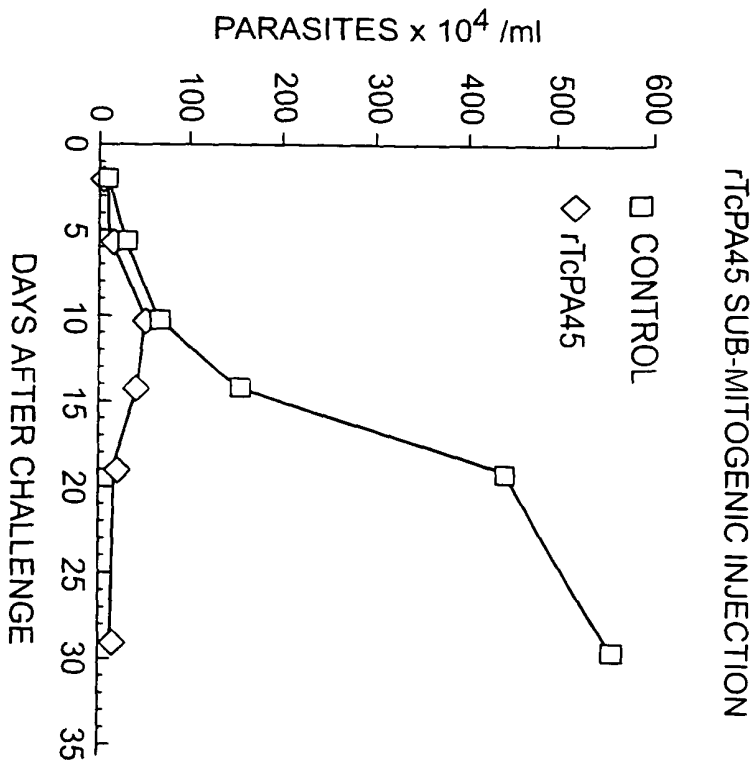


FIG. 14B

SEQ ID NO:2

Tc	RTGQEKLLFDQYKIIKGEKKEKKKNQNRNREHQQREIMRFKS	75
Tc	FTCIDMHTEGEARIVTSGLPHIPGSNMAEKKAYLQENMDYLRRGIMLEPRGHDDMFCAFLFDPIEGADLGMVF	150
Tc	MDTGCYLMCGHNSIAAVTAAVETGIVSVPAKATNPVVLDTPAGLVRGTAHLQSGTESESVNASIINVPSTLYQ	225
Tc	QDVVVVLPRPYGEVRVDIAFGGNFFAIVPAEQLGIDISVQNL SRLQEAGELL RTEINRSVKVQHPPQLPHINTVDC	300
Tc	VEIYGPTNPEANYKNVVIFGNRQADR SPCGT GTSAKMATLYAKGQLRIGETFVYESILGSLFQGRV--LGEE	371
Tc	RIPGVKVPVTKDAEEGMLVVTAEITGKAFIGENTMLFDPTDPFKNGFTLKQ*	423

FIG. 15

SEQ ID NO:4

Tc		MRFKKS	75
Tc	FTCIDMHTEGEAR <u>I</u> VTSGLPHPGSNMAEKKAYIQENMDYLRRGIMLEPRGHDDMFGAFLFDPIEGADLGMVF		150
Tc	MDTGGYLNMCGHNSIAAVTAAVETGIVSVPAKATNPVVLDPAGLVRGTAHLQSGTESESVNASIINVPSFLYQ		225
Tc	QDVVVVLLPKPYGEVR <u>VDIAFGGNFFAIVPAEQ</u> LIGIDISVQNL SRLQEAGELLRT E INRSVKVQHPQLPHINTVDC		300
Tc	VEIYGPPTNPEANYK <u>NVVIFGNRQ</u> ADR SPCGT GTSAKMATLYAKGQLRIGETFVYESILGSLFQGRV--LGEE		371
Tc	RIPGVKVPVTKDAEEGMLVVTAEITGKAFLMGFNTMLFDPTDPFKNGFTLKQ*		423

FIG. 16

SEQ ID NO:7

POLYPYRIMIDINE RICH REGION



SPICE LEADER
ACCEPTOR SITES

SIGNAL PEPTIDE

CCCTTTTCTTTTAAACAAACAAATTCGGGGGGAATATGAAACAGGCTATATGCGTAACAAAGTCTCTGCCAACAACAAATTTT 90
TTTCCGCCCTTCCATTTTTTTTTTTTTTTTGTGTTTCCCTGATCTCTGACACAGGCGAGAAAGCTTCTGTTGACCAAAATAT 12
F S A F P F F F F C V F P L I S R T G Q E K L L F D Q K Y 42
AAATTTATTAAGGCGAGAAACAAAGAAACAAATCAACGACCAACAGAGAGACACCAACAAAGGAATTATGCGATT 270
K I I K G E K K K K N Q R A N R R E K Q Q K R E I M R F 72
AAGAATCATTCACATCGACATGACATACGGAAGGTGAACGACGACGGATTGTGACGAGTGGTTGCCACACATTCAGGTTGCAAT 360
K K S F T C I D M H T E G E A A R I V T S G L P H I P G S N 102
ATGGCGAGAAAGCATACCTGCAGAAACATGGATTATTGAGCGCTGGCAATATGCTGAACCAACGTCATGATGATATGTTT 430
M A E K K A Y L Q E N M D Y L R R G I M L E P R G K D D M F 132
GGAGCCTTTTATTGACCTATTGAAGAAGCGCTGACTTGGGCATGGTATTGATGATACCGGTGCTATTAAATATGTGTGACAT 520
G A F L F D P I E E G A D L G M V F M D T G G Y L N M C G H 162
AACTCAATTGACGGGTTACGGCGGAGTTGAACGGGAATTGTGAGCGTGCCGGCAAGCAACAATGTTCGGTTGTCTGACACA 610
N S I A A V T A A V E T G I V S V P A K A T N V P V V L D T 192
CCTGCGGGTGTGCGCGGTACGGCACCTTCAGAGTGTACTGAGAGTGAGGTGTCAATGCGAGTATTATCAATGTACCTCATTT 700
P A G L V R G T A R L Q S G T E S E V S N A S I I N V P S F 222
TTGTATCAGCAGGATGTGCTGTTGTGTTGCCAAAGCCCTATGCTGAAGTACGGGTTGATATTCATTTGGAGGCAATTTTTCGCCATT 790
L Y Q Q D V V V V L P K P Y G E V R V D I A F G G N F F A I 252

FIG. 17A

GTTCCTCCGCGGAGCAGTTGGGAATTGATATCTCCGTTCAAAACCTCTCCAGGCTGCAGGAGGAGGAGAACTTCTGCGTACTGAATCAAT 880
V P A E Q L G I D I S V Q N L S R L Q E A G E L L R T E I N 282
CCGAGTGTGAAGTTACGACACCTCAGCTGCCCATATTACACTGTGACTGTGTGAGATATACGGTCCGCCAACGAAACCGGAGCA 970
R S V K V Q H P Q L P H I N T V D C V E I Y G P P T N P E A 312
AACTACAAGAACGTTGTGATATTGGCAATCGCCAGGCGGATCGCTCTCCATGTGGACAGGACCAAGCCCAAGATGGCAACACTTAT 1060
N Y K N V V I F G N R Q A D R S P C G T G T S A K M A T L Y 342
GCCAAGGCCAGCTTCGCAATCGAGAGACTTTTGTGTACGAGACGATACCTCGGCTCACTCTTCCAGGCGAGGTACTTGGGAGGAGCGA 1150
A K G Q L R I G E T F V Y E S I L G S L F Q G R V L G E E R 372
ATACCGGGGTGAAGGTGCCGCTGACCAAGATGCCGAGGAGGATGCTCGTTGTAAAGGAGCAAAATTACTGAAAGCGCTTTATCATG 1240
I P G V K V P V T K D A E E G M L V V T A E I T G K A F I M 402
GGTTTCAACACCATGCTGTTGACCCAACGATCCGTTTAAAGACGATTACATTTAAAGCAGTAGATCTGTTAGACACAGAAACTATT 1330
G F N T M L F D P T D P F K N G F T L K Q * 423
GGGGAACACGTCCGAACAGGTGCTGCTACGTGAAGGCTATTGAATGAATCGTTTATTTTATTTTATTTTATTTATTTAGTGCAAT 1420
ATTATTAATTTTTTTTTTTGTTTGGGTTTCAACGGTACCCGCTTGGGAGCAGGGAAGCGATAGCGGCCGACAATTTTTTGCCTTTAT 1510
TTTCATTTTCATCTTCCTACCAACCCCTTGCTTCCACCGGTCGCGGGGGGCTTGTGGGTGAGGAGTCTTAATCCCGCACCTCGG 1600
AGGAATAACATATTTCATTTTCATATCTTGAATCAAAAGGCAT 1651

POLYADENILATION SITE

Obs: UNDERLINED THE SEQUENCED PEPTIDES USED TO DEDUCE DEGENERATED PRIMERS
FOR CLONING

(b) NUCLEOTIDE SEQUENCE AND PEPTIDE SEQUENCE TcPA45

FIG. 17B

SEQ ID NO:8

```
ATGCGTAAAGTGTCTGTCTGCCAACAATAATTTT 90
M R K S V C P K Q K F F 12
TTTTCCGCCCTCCCATTTTTTTTTTTTGTGTGTTCCCTTGATCTCTCGACAGGGCAGGAAAGCTTCTGTTGACCAAAATAT 180
F S A F P F F F F C V F P L I S R T G Q E K L L F D Q K Y 42
AAATTATTAGGCGCAGAAAAAGAAAAAAATCAACGACGAACAGAGAGAACACCAAAAAAGGAATTATGCGATT 270
K I I K G E K K E K K N Q R A N R R E H Q Q K R E I M R F 72
AAGAAATCATTCACATGCATGCATGCATGCGAAGTGAAGCAGCAGCGATTGTGACGAGTGTGTTGCCACACATTCCAGGTTGCAAT 360
K K S F T C I D M H T E G E A A R I V T S G L P H I P G S N 102
ATGCGGAGAAGAAAGCATACCTGCAGAAAAACATGATTATTGAGCGGTGCATATGTGGAACCAACGTGTCATGATGATATGTT 430
M A E K K A Y L Q E N M D Y L R R G I M L E P R G H D D M F 132
GGAGCCTTTTATTGACCCCTATTGAGAGAGCGCTGACTTGGCATGGTATTCTATGATACCGGTGCTATTTAATATGTGGACAT 520
G A F L F D P I E E G A D L G M V F M D T G G Y L N M C G H 162
AACTCAATTGCAGCGGTACGGCGGCGAGTTGAAACGGGAATTGTGAGCGTGCCGGCAAGCAACAATGTTCCGGTTGCTCGACACA 610
N S I A A V T A A V E T G I V S V P A K A T N V P V V L D T 192
CCTGCGGGGTGGTCCGCGGTACGGCACACCTTCAGAGTGTACTGAGAGTGAAGTGTCAATGCGAGTATTATCAATGTACCCTCATTT 700
P A G L V R G T A H L Q S G T E S E V S N A S I I N V P S F 222
TTGTATCAGCAGATGTGGTGTGTGTGTTGCCAAAGCCCTATGTGAGTACGGGTGATATTCATTGAGGCAATTTTTTCGCATT 790
L Y Q Q D V V V L P K P Y G E V R V D I A F G G N F F A I 252
GTTCCCGCGAGCAGTTGGGAATTGATATCTCCGTCAAAACCTCTCCAGGCTGCAGAGGAGAGAACTTCTGCCGTACTGAATCAAT 880
V P A E Q L G I D I S V Q N L S R L Q E A G E L L R T E I N 282
CGCAGTGTGAAGTTCAGCACCCCTCAGCTGCCCATATTAACACTGTGCACTGTGTTGAGATATACGGTCCGCCAACGAACCCGAGGCA 970
R S V K V Q H P Q L P H I N T V D C V E I Y G P P T N P E A 312
```

FIG. 18A

POLYADENYLATION SITE

NUCLEOTIDE SEQUENCE AND PEPTIDE SEQUENCE TcPA45

FIG. 18B

SEQ ID NO:9

```
CGAACAGGGCAGGAAAGCTTCTGTTGACCAAAATAT 270
R T G Q E K L L F D Q K Y 72
AAATATTTAAGCGCGAGAAAAAGAAAAATCAACGACCAACAGAGAGAACACCAAAAAAGGAATTATGCGATTT 360
K I I K G E K K E K K N Q R A N R R E H Q Q K R E I M R F 102
AAGAAATCATTCACATGCATGCATACGGAAGGTGAAGCAGCAGCAGGATGTGACGAGTGGTTGCCACACATTCAGGTTGCAAT 430
K K S F T C I D M H T E G E A A R I V T S G L P H I P G S N 132
ATGCGGAGAGAAAGCATACCTGCAGGAAAAACATGATTATTGAGCGCTGGCATAATGCTGCAACCAACCGTGTGATGATATGTTT 520
M A E K K A Y L Q E N M D Y L R R G I M L E P R G H D D M F 162
GGAGCCTTTTATTGACCCATTGAAGAAGCGCGCTGACTTGGCATGCTATTTCATGATACCGGTGCTATTAAATATGTGGACAT 610
G A F L F D P I E E G A D L G M V F M D T G G Y L N M C G H 192
AACTCAATTGCAGCGGTTACGGCGGAGTTGAACGGGAATTGTAGCGGTGCCGGAAGCAACAATGTTCCGGTTGCTCGACACA 700
N S I A A V T A A V E T G I V S V P A K A T N V P V V L D T 222
CCTGCGGGGTTGGTCCGGGTACGGCACACCTTCAGAGTGTACTGAGATGAGGTGTCAATGCGAGTATTATCAATGTACCCTCATTT 790
P A G L V R G T A H L Q S G T E S E V S N A S I I N V P S F 252
TTGTATCAGCAGGATGTGGTGTGTGTTGCCAAAGCCCTATGCTGAGTACGGGTGATATTGCATTTGAGGCAATTTTTCGCCATT 880
L Y Q Q D V V V L P K P Y G E V R V D I A F G G N F F A I 282
GTTCCCGGAGCAGTTGGGAATTGATATCTCCGTTCAAAACCTCTCCAGGCTGCAGGAGGAGGAGGAGAACTTCTGCGTACTGAAATCAAT 970
V P A E Q L G I D I S V Q N L S R L Q E A G E L L R T E I N 312
CGCAGTGTGAAGTTACGACACCTCAGCTGCCCATATTAACTGTGACTGTGTTGAGATATACGGTCCGCCAACGAACCGGAGGCA 1060
R S V K V Q H P Q L P H I N T V D C V E I Y G P P T N P E A 342
AACTACAAGAACGTTGTGATATTGGCAATCGCCAGGCGGATCGCTTCATGTGGACAGGACCAAGGCCAAGATGGCAACACTTTAT 1150
N Y K N V V I F G N R Q A D R S P C G T G T S A K M A T L Y 372
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FIG. 19A

GCCAAAGGCCAGCTTCGCATCGGAGAGACTTTTGTGTACGAGAGCATACTCGGCTCAGCTCTTCCAGGGCAGGGTACTTGGGAGAGCGA 1240
A K G Q L R I G E T F V Y E S I L G S L F Q G R V L G E R 402
ATAACGGGGGTGAAGGTGCCGGGTGACCAAGAATGCCGAGGAGGATGCTCGTTGTACGGCAGAAATTACTGGAAGGCTTTTATCATG 1330
I P G V K V P V T K D A E E G M L V V T A E I T G K A F I M 423
GGTTCAACACCATGCTGTTGACCCCAACGGATCCGTTTAAAGACGGATTCAATTAAGCAGTAGATCTGCTAGACACAGAAACTATT 1420
G F N T M L F D P T D P F K N G F T L K Q *

GGGAACACGTCGGAACAGGTGCTGCTACGTGAAGGGTATTGAATGAATCGTTTTTTTTTATTATTATTATTATTATTATTATTATTATTATTATTAGTCATT 1510

ATTATTAAATTTTTTTTTTTGTTTGGGGTTTCAACGGTACCGCGTTGGGAGCAGGGAAGCGATAGCGCGCGGACAAATTTTTCCTTTTAT 1600

TTTCATTTTCATCTTCTACCCAACCCCTTGCTTCCACCGGTGCGGGGGGTCTTGTTGGGTGAGAGACTCCTAAATCCCGCACCCTCGG 1651

AGCAATAACATATTTCAATTTCAATATCTTGAATCAAAAGCAT

POLYADENILATION SITE

Obs: UNDERLINED THE SEQUENCED PEPTIDES USED TO DEDUCE DEGENERATED PRIMERS
FOR CLONING

NUCLEOTIDE SEQUENCE AND PEPTIDE SEQUENCE TcPA45

FIG. 19B

SEQ ID NO:10

SIGNAL PEPTIDE

ATGCGTAAAGTGCTGTGTCGCCAACAACAAAAATTTT

TTTTCCGCCCTTCCCATTTTTTTTTTTTTTTGTTGTTCCCTTGATCTCT

NUCLEOTIDE SEQUENCE OF SIGNAL SEQUENCE TcPA45

FIG. 20

SEQ ID NO:11

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AAGAAATCATTCACATGCATGCACATGCATACGGAAGGTGAAGCAGCAGCGGATTGTGACGAGTGGTTGCCACACATTCCAGTTGCAAT
K K S F T C I D M H T E G E A A R I V T S G L P H I P G S N
ATGGCGAGAGAAGACATACCTGCAGGAAACATGATTATTGAGCGGTGCATATGCTGGAACCAAGTGTGTCATGATGATGTTT
M A E K K A Y L Q E N M D Y L R R G I M L E P R G H D D M F
GGAGCCTTTTATTGACCCCTATTGAAGAAGCGCTGACTTGGGCATGTATTGATGATACCGGTGGCTATTTAATATGTGTGACAT
G A F L F D P I E E G A D L G M V F M D T G G Y L N M C G H
AACTCAATTGCAGCGGTTACGGCGGCAGTTGAACCGGAATTGTGAGCGTGCCGGCGCAAGCAACAATGTTCCGGTGTCTCGACACA
N S I A A V T A A V E T G I V S V P A K A T N V P V L D T
CCTGGGGGTGTTGCGCGGTACGGCACACCTTCAGAGTGTACTGAGAGTGAGGTGTCAAATGCGAGTATTCAATGTAACCTCATTT
P A G L V R G T A H L Q S G T E S E V S N A S I I N V P S F
TTGTATCAGCAGATGTGTTGTTGTTGCCAAAGCCCTATGCTGAAGTACGGGTGATATTCATTTGAGGCAATTTTTCGCCATT
L Y Q Q D V V V L P K P Y G E V R V D I A F G G N F F A I
GTTCCCGCGAGCAGTTGGGAATTGATATCTCCGTTCAAAACCTCTCCAGGCTGCAGGAGCAGAGAACTTCTGCTACTGAAATCAAT
V P A E Q L G I D I S V Q N L S R L Q E A G E L L R T E I N
CGCAGTGTGAAGTTCAGCACCTCAGCTGCCCATATTAACTGTGACTGTGTGAGATATACGGTCCGCCAACGAACCGGAGGCA
R S V K V Q H P Q L P H I N T V D C V E I Y G P P T N P E A
AACTACAGAAGCTTGATATTTTGGCAATGCCAAGCGGATCGCTCTCCATGTGGACAGCAACCAAGCCCAAGATGGCAACACTTAT
N Y K N V V I F G N R Q A D R S P C G T G T S A K M A T L Y
GCCAAAGGCCAGCTTCGCATCGAGAGACTTTTGTGTACGAGAGCATACTCGGCTCACTCTTCCAGGGCAGGGTACTTGGGAGGAGCGCA
A K G Q L R I G E T F V Y E S I L G S L F Q G R V L G E E R

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FIG. 21A

ATACCGGGGTGAAGGTGCCGGTGACCAAGATGCCGAGGAGGAGTCTCTGTACGGCAGAAATTACTGAAAGCCTTTATCATG 1330
I P G V K V P V T K D A E E G M L V V T A E I T G K A F I M 423
GGTTCAACACCATGCTGTTTGACCCACGGAATCCGTTTAAAGACGATTACATTAAAGCAGTAGATTCTGTAGACACAGAAACTATT 1420
G F N T M L F D P T D P F K N G F T L K Q *
GGGAACACGTGCCAACAGGTGCTGCTACGTGAAGGGTATTGAATGAATCGTTTTTTTTTATTATTATTATTATTATTATTAGTGCAAT 1510
ATTATTAAATTTTTTTTTTTGTTTGGGTTTCAACGGTACCGCGTTGGAGCAGGGAAGCATAGCGCGGACAAATTTTTCCTTTAT 1600
TTTCATTTTCATCTCTCCTACCCACCCCTTGTTCCACCGGTGCGGGGGGCTTTGTGGGTGAGAGTCCTAATCCCGCACCCTCGG 1651
AGGAATAACATATTTCAATTTCAATATCTTGAATCAAAAGGCAT

FIG. 21B